

REMARKS

Claims 1 - 35 are pending. Claims 1, 10, 19, and 33 - 35 are amended herein. The original application did not have claims numbered 33 - 35. Claims 36 - 38 have been renumbered to be Claims 33- 35. No new matter is added as a result of the claim amendments.

Specification

The first line of the specification has been up-dated to reflect the current status of the parent application. Therefore, Applicants respectfully assert that the objection due to this informality is traversed.

112 Rejection

Claims 4, 13 and 24 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Office Action refers to the limitation of "sufficient thickness" in Claims 4, 13 and 24.

Claims 4, 13 and 24 specifically recite "... a thickness sufficient to prevent substantial penetration of said electrons...". Applicants respectfully assert that the language in Claims 4, 13 and 24 speaks for itself and that a person of ordinary skill in the art would understand such language. MPEP 2173.05(e) states, "If the scope of a claim would be reasonably ascertainable by those skilled in the art, then the claim is not indefinite." Therefore, Applicants respectfully assert that Claims 4, 13 and

24 are not indefinite, and that the rejection of these claims under U.S.C. § 112, second paragraph, is traversed.

102(b) Rejection

Claims 1 - 9, 19, 20 and 22 - 29 are rejected under 35 U.S.C. § 102(b) as being anticipated by Wallace, et al. ("Wallace;" US 5,689,151).

Applicants have reviewed the cited reference and respectfully submit that the present invention as recited in Claims 1 - 9, 19, 20 and 22 - 29 is not anticipated or shown by Wallace.

135 ✓¹²
Wallace does not teach, show or suggest "a barrier layer" that "prevents penetration by electrons directed toward said faceplate" as recited by independent Claims 1 and 19. Wallace's ITO layer 28 does not form a "barrier layer." From Wallace, "conductive regions 28 function as the anode electrode" (col. 4, lines 15 - 16, emphasis added) and therefore do not form "a barrier layer."

Further, Wallace's silica 34 does not form a "a barrier layer" that "prevents penetration by electrons directed toward said faceplate" as recited by independent Claims 1 and 19. Wallace refers to this as an "optional thin insulating layer of silicon dioxide 34" (col. 3, lines 40, 41). In addition, Wallace also states, "...it may be desirable to remove insulating layer 34...". It may be seen that not only does Wallace not teach, disclose or suggest a barrier layer, Wallace actually teaches away from using a silica layer, by suggesting that it "may be desirable to remove insulating layer 34...".

Therefore, Applicants respectfully submit that independent Claims 1 and 19 are not anticipated by Wallace, and therefore the rejection of these claims under 35 U.S.C. § 102(b) is traversed. Claims 2 – 9 are dependent on Claim 1, and Claims 20 and 22 – 29 are dependent on Claim 19. Applicants also respectfully submit that Claims 2 – 9, 20 and 22 – 29 traverse the Examiner's basis for rejection under 35 U.S.C. § 102(b) as these claims are dependent on allowable base claims.

Claims 10 – 14, 16 – 19, 21 – 25 and 27 – 29 are rejected under 35 U.S.C. § 102(b) as being anticipated by Banno, et al. ("Banno;" US 5,525,861). Applicants have reviewed the cited reference and respectfully submit that the present invention as recited in Claims 10 – 14, 16 – 19, 21 – 25 and 27 – 29 is not anticipated or shown by Banno.

Banno does not teach, disclose or suggest "a barrier layer" that "prevents electron bombardment" as recited by independent Claim 10. Claim 10 recites "a barrier layer disposed over said one side of said cathode substrate..." (emphasis added). Banno describes an SiO₂ film 24 between a glass substrate and a gold electrode (col. 5 lines 36 – 41, emphasis added). In addition, Banno describes the removal of gold material (col. 5, lines 41 – 43) to form electrodes. Consequently, gold does not form a barrier layer as recited in Claim 10. Further, Banno describes "etching of the insulating layer 3 SiO₂ ... to make openings through which electrons are passed." Thus, Banno's layer 3 does not form a barrier layer as recited in Claim 10. Therefore, as Banno does not teach, disclose or

suggest a barrier layer, Applicants respectfully submit that Claim 10 traverses the basis for rejection under 35 U.S.C. § 102(b).

Claims 11 – 14 and 16 - 18 are dependent on Claim 10. Applicants also respectfully submit that Claims 11 – 14 and 16 - 18 traverse the basis for rejection under 35 U.S.C. § 102(b) as these claims are dependent on allowable base claims.

Banno does not teach, disclose or suggest “a barrier layer” that “prevents penetration by electrons directed toward said faceplate” as recited by independent Claim 19. Claim 19 recites “a barrier layer ... comprising a material which may prevent penetration by electrons directed toward said faceplate.” Banno makes no reference to a layer intended to prevent penetration of electrons. In fact, the functions described in Banno for insulating layer 24 are limited to insulation and support for electrodes (col. 5, lines 19, 20).

Further, Claim 19 recites “disposing a barrier layer over said substrate structure...” (emphasis added). Banno’s layer of insulating material 24 is deposited over the substrate material (col. 5, lines 39 – 40, emphasis added) rather than over a “substrate structure of a field emission display device” as recited in Claim 19.

Therefore, for these reasons, Applicants respectfully submit that Claim 19 traverses the basis for rejection under 35 U.S.C. § 102(b). Claims 21 – 25 and 27 - 29 are dependent on Claim 19. Applicants also

respectfully submit that Claims 21 – 25 and 27 - 29 traverse the basis for rejection under 35 U.S.C. § 102(b) as these claims are dependent on an allowable base claim.

103(a) Rejections

Claim 15 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Banno. Applicants have reviewed the cited reference and respectfully submit that the present invention as recited in Claim 15 is not anticipated nor rendered obvious by Banno.

As discussed above, Banno does not teach, disclose or suggest “a barrier layer” that “prevents electron bombardment” as recited by independent Claim 10. Claim 10 recites “a barrier layer disposed over said one side of said cathode substrate...” (emphasis added). Banno describes an SiO₂ film 24 between a glass substrate and a gold electrode (col. 5, lines 36 – 41). In addition, Banno describes the removal of gold material (col. 5, lines 41 – 43) to form electrodes. Consequently, gold does not form a barrier layer as recited in Claim 10. Further, Banno describes “etching of the insulating layer 3 SiO₂ ... to make openings through which electrons are passed.” Thus, Banno’s layer 3 does not form a barrier layer as recited in Claim 10. Consequently, Banno does not teach, disclose or suggest a barrier layer. As such, in light of Banno, it would not be obvious to one skilled in the art to construct a barrier layer of any thickness.

Claim 15 is dependent upon Claim 10. Applicants respectfully submit that Claims 15 traverses the basis for rejection under 35 U.S.C. § 103(a) as this claim is dependent on an allowable base claim.

Claims 30 – 38 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Wallace in view of Okamoto et al. (“Okamoto,” US 5,543,685). Applicants respectfully submit that the original Application was deficient in that there were no Claims 33 – 35, and understand this rejection to apply to the original Claims 36 – 38, and consequently to renumbered Claims 33 – 35, as amended. Claims 30 – 32 are dependent on Claim 1, and renumbered claims 33 – 35 are dependent on Claim 19.

As discussed above, Wallace does not show or suggest a “barrier layer” that “prevents penetration by electrons directed toward said faceplate” as recited in Claims 1 and 19. Okamoto does not overcome the shortcomings of Wallace. Okamoto also does not show or suggest a “barrier layer” that “prevents penetration by electrons directed toward said faceplate.” Therefore, the combination of Wallace and Okamoto does not show or suggest the present invention as recited in Claims 1 and 19. Accordingly, Claims 30 – 32 dependent on Claim 1 and Claims 33 – 35 dependent on Claim 19 are also not shown or suggested by Wallace and Okamoto, alone or in combination, and Applicants respectfully assert that these claims traverse the basis for rejection under 35 U.S.C. § 103(a) as these claims depend on allowable base claims.

CONCLUSION

In light of the above remarks, Applicants respectfully request reconsideration of the rejected Claims.

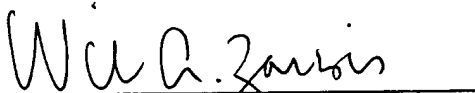
Based on the arguments presented above, Applicants respectfully assert that Claims 1-35 overcome the rejections of record and, therefore, Applicants respectfully solicit allowance of these Claims.

Applicants have reviewed the following references which were cited but not relied upon and do not find these references to show or suggest the present claimed invention: US 5,772,485 and US 5,628,662.

The Examiner is invited to contact Applicants' undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

Respectfully submitted,

WAGNER, MURABITO & HAO LLP



William A. Zarbis

Reg. No. 46,120

Two North Market Street
Third Floor
San Jose, California 95113
(408) 938-9060

Date: 1/4/02

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION

The first line of the specification has been amended as follows:

This Application is a Continuation-in-Part of co-pending, commonly-owned U.S. Patent [Application Serial No. 09/087,785, filed May 29, 1998,] 6,215,241, issued April 10, 2001, by Learn et al., and entitled "ENCAPSULATED FLAT PANEL DISPLAY COMPONENTS."

IN THE CLAIMS

Claims 1, 10, 19 and 36 – 38 have been amended as follows:

1. (Once Amended) A protected faceplate structure of a field emission display device, said protected faceplate structure comprising:

a) a faceplate of a field emission display device, said faceplate [adapted to have] comprising phosphor containing wells disposed above one side thereof; and

b) a barrier layer disposed over said one side of said faceplate, wherein said barrier layer [adapted to] prevents [degradation of said faceplate due to electron bombardment] penetration by electrons directed towards said faceplate [phosphor containing wells].

10. (Once Amended) A protected cathode substrate structure of a field emission display device, said protected cathode substrate comprising:

a) a cathode substrate of a field emission display device, said cathode substrate [adapted to have] comprising an electron emitting structure disposed above one side thereof; and

b) a barrier layer disposed over said one side of said cathode substrate, wherein said barrier layer [adapted to] prevents [degradation of said cathode substrate due to] electron bombardment by electrons originating from said electron emitting structure.

19. (Once Amended) A method for protecting a substrate structure of a field emission display device, said method comprising the steps of:

a) providing a substrate structure of a field emission display device; and

b) disposing a barrier layer over said substrate structure, wherein said barrier layer [adapted to] prevents [degradation of said substrate structure due to bombardment by electrons] penetration by electrons directed toward said faceplate.

[36] 33. (Once Amended) The method for protecting a substrate structure of a field emission display device as recited in Claim 19, wherein said barrier layer includes a selectively light absorbing component.

[37] 34. (Once Amended) The method for protecting a substrate structure of a field emission display device as recited in Claim [36] 33, wherein said selectively light absorbing component is selected from the group consisting of dyes and pigments.

[38] 35. (Once Amended) The method for protecting a substrate structure of a field emission display device as recited in Claim [36] 33, wherein each subpixel of said faceplate includes a different selectively light absorbing component.